

WHAT IS CLAIMED IS:

1. An anti-abrasive flat flexible cable applied to a flatbed scanner connected between a circuit board and a carriage of said flatbed scanner and bending differentially with the forward or backward movement of said carriage under a platform of said flatbed scanner, said anti-abrasive flat flexible cable comprising:
  - a flexible main body connected to said circuit board and said carriage respectively, and transmitting electric signals between said circuit board and said carriage; and
  - a weighting object arranged on a portion of said flexible main body, which is possibly to be bent during said movement of said carriage, for pulling said flexible main body away from said platform so as to avoid abrasion.
2. The anti-abrasive flat flexible cable according to claim 1 wherein said flexible main body comprises:
  - a flexible conductor having one end connected to said circuit board and the other end connected to said carriage, respectively, for transmitting said electric signals; and
  - a flexible insulating wrapper enclosing said flexible conductor to protect said flexible conductor.
3. The anti-abrasive flat flexible cable according to claim 2 wherein said flexible conductor is a copper foil.
4. The anti-abrasive flat flexible cable according to claim 2 wherein said flexible insulating wrapper is made of thermoplastic material.
5. The anti-abrasive flat flexible cable according to claim 1 wherein said weighting object comprises a plurality of metal bars arranged in parallel.
6. The anti-abrasive flat flexible cable according to claim 5 wherein said

plurality of metal bars are perpendicular to the movement direction of said carriage.

7. The anti-abrasive flat flexible cable according to claim 1 wherein said weighting object comprises a plurality of granular balls.
8. The anti-abrasive flat flexible cable according to claim 1 wherein said weighting object is arranged on an inner surface of said bent portion of said flexible main body during said movement of said carriage.
9. The anti-abrasive flat flexible cable according to claim 1 wherein said weighting object is distributed on said flexible main body between said carriage and a halfway portion of said flexible main body.
10. The anti-abrasive flat flexible cable according to claim 1 wherein the weight ratio of said weighting object to said flexible main body is greater than 10.
11. An anti-abrasive flat flexible cable applied to a flatbed scanner connected between a circuit board and a carriage of said flatbed scanner and bending differentially with the forward or backward movement of said carriage under a platform of said flatbed scanner, said anti-abrasive flat flexible cable comprising:
  - a flexible conductor connected to said circuit board and said carriage respectively, and transmitting electric signals between said circuit board and said carriage; and
  - a flexible insulating wrapper enclosing and protecting said flexible conductor,wherein said anti-abrasive flat flexible cable has a curved or wrinkled cross-section to resist against the free bending of said anti-abrasive flat flexible cable.
12. The anti-abrasive flat flexible cable according to claim 11 wherein said

cross-section of said anti-abrasive flat flexible cable is arc-shaped.

13. The anti-abrasive flat flexible cable according to claim 11 wherein said cross-section of said anti-abrasive flat flexible cable is V-shaped.
14. The anti-abrasive flat flexible cable according to claim 11 wherein said cross-section of said anti-abrasive flexible cable is W-shaped.
15. The anti-abrasive flat flexible cable according to claim 11 wherein said flexible conductor is a copper foil.
16. The anti-abrasive flat flexible cable according to claim 11 wherein said flexible insulating wrapper is made of thermoplastic material.